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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,913	04/04/2007	Atsushi Fukunaga	062452	8954
38834 7590 01/27/2010 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			EXAMINER LACLAIR, DARCY D	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 01/27/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,913	<b>Applicant(s)</b> FUKUNAGA, ATSUSHI	
	<b>Examiner</b> Darcy D. LaClair	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on **10/9/2009**.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The grounds of rejection for **Claims 1-4 and 7-11** are maintained. The new grounds of rejection set forth below for **new Claim 12**, which was not present in the claims at the time of the preceding Office Action, are necessitated by applicant's amendment filed on **10/9/2009**. Thus, the following action is properly made **FINAL**.

#### ***Claim Rejections - 35 USC § 103***

2. **Claims 1-4, 7 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nishimura et al. (US 6,300,404)** in view of **Burnell-Jones et al. (US 2003/0085383)**.

The rejection is adequately set forth in **paragraph 2** of the office action mailed **7/9/2009**, and is incorporated here by reference.

3. **Claims 8 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nishimura et al. (US 6,300,404)** in view of **Burnell-Jones et al. (US 2003/0085383)** and **Brown (US 5,208,629)**

The rejection is adequately set forth in **paragraph 3** of the office action mailed **7/9/2009**, and is incorporated here by reference.

4. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Nishimura et al. (US 6,300,404)** in view of **Burnell-Jones et al. (US 2003/0085383)** and **Okamoto et al. (US 6,183,551)**

The rejection is adequately set forth in **paragraph 4** of the office action mailed **7/9/2009**, and is incorporated here by reference.

The discussion with regard to **Nishimura** and **Burnell-Jones**, above in **paragraph 2**, is incorporated here by reference.

5. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Nishimura et al. (US 6,300,404)** in view of **Hayner (US 4842903)**

**With regard to Claim 12**, Nishimura teaches a curable polymer composition comprising an oxyalkylene polymer having a silicon containing group which has a hydroxyl or hydrolysable group bonded to the silicon atom and a paraffinic hydrocarbon. (see abstract) The oxyalkylene polymer having a silicon group which has a hydroxyl is consistent with applicant's polyoxyalkylene containing at least one reactive silyl group. Furthermore, applicant's detailed description substantially overlaps with Nishimura with respect to the polyoxyalkylene. (See applicant's p. 3 line 15 through p. 12 line 25 compared to Nishimura col 1 line 65 through col 5 line 20) The paraffinic hydrocarbon, which functions as a plasticizer (see col 6 line 53-64), is preferably between 1 and 60 weight parts per 100. (see col 5 line 58-59) This encompasses applicant's claimed

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range for hydrocarbon based plasticizer, 5-50 parts by weight, with sufficient specificity that one of ordinary skill in the art would be directed to applicant's claimed range.

With regard to the needle crystal filler, Nishimura teaches several types of filler which may be incorporated, including asbestos, calcium carbonate, china clay or kaolin (aluminum silicate) magnesium carbonate, several types of fibers, and the like. (see col 8 line 1-10) In the examples, 120 parts by weight of filler are used. (col 8 ln 40) This falls within applicant's claimed range. Additionally, the fillers are taught as optional, (see col 7 line 60-62, col 8 line 1-2) so the range in which they are taught is from 0 to around 120 weight parts, which significantly overlaps with applicant's claimed range. Nishimura teaches that the curable polymer may be used as a sealing material, coating, adhesive, caulking material, coating material, and the like. (See col 8 line 26-29) While Nishimura teaches a variety of silicate type fillers and a variety of fillers with needle like morphologies, Nishimura does not specifically teach sepiolite or wollastonite.

Hayner teaches soft coatings comprising clays in a base. Hayner teaches that sepiolite clays provide excellent anti-sag capabilities to the films without excessively increasing the viscosity of the coating material. This is an improvement compared to conventional thixotropes such as bentonites and other organoclays, which increase the viscosity and make pumping and application difficult. (See abstract) As Nishimura teaches china clay and kaolin, which are organoclays, in a composition which is for use in coating, caulking, or adhesive applications, it would be obvious to one of ordinary skill in the art to consider Hayner's teachings, which indicate how one could improve over the conventional clay materials by using sepiolite. Therefore it would be obvious to one

of ordinary skill in the art to employ a sepiolite clay in the composition of Nishimura to improve the coating and application properties of the composition.

### ***Response to Arguments***

6. Applicant's arguments filed **10/9/2009** have been fully considered. Specifically, applicant argues

(A) The rejection of Claims 1-4, 7, and 10 is traversed on the grounds that the presently claimed curable resin can be highly extruded from a cartridge and can exercise initial fixability to fix the substrates in an instant, even when applied to vertical surfaces; the present invention achieves both extrudability and initial fixability simultaneously. This is an unexpected result over conventional art, where both were difficult to achieve simultaneously. Nishimura discloses a curable polymer composition having improved tack; Nishimura does not disclose sepiolite or wollastonite, nor is there a reason for incorporating these fillers as the specific needle crystal filler, which is a feature of the presently claimed invention. Burnell-Jones discloses an electroluminescent polymer comprising thermosetting polyester; wollastonite is used as a reinforcement to improve physical properties, such as strength and stiffness; the polymer of Burnell-Jones is completely different from the curable composition of the presently claimed invention, thus it would not have been obvious to a skilled artisan to consider Burnell-Jones for achieving the presently claimed invention. Furthermore, the object of Burnell-Jones and Nishimura is different, and one of ordinary skill in the art would not recognize Nishimura and Burnell-Jones as the same field of invention. Also,

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in Burnell-Jones, silica is used as a rheological and thixotropic filler, but wollastonite is only used as a reinforcement; therefore in Burnell-Jones, silica, not wollastonite, is used for rheological effects, and thus there is no reason for one to use wollastonite in the composition of Nishimura.

(B) Brown discloses a process of making low density reinforced reaction injection molded composite having wollastonite fibers to improve flexural modulus; the composite of brown is completely different than the instantly claimed invention, and it would not have been obvious to one of ordinary skill in the art to consider using Brown to achieve the presently claimed invention, and Brown does not disclose or suggest any reason for using wollastonite in the composition of Nishimura, thus the deficiencies of Nishimura in view of Burnell-Jones are not overcome by Brown.

(C) Okamoto discloses a resin composition, but does not teach any reason for using sepiolite or wollastonite as the specific needle crystal filler; thus the deficiencies of Nishimura in view of Burnell-Jones are not overcome by Brown.

7. **With respect to argument (A)**, applicant's arguments have been considered but are **not persuasive**. First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., fixability and extrudability, and extrusion from a cartridge) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Additionally, it is noted

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that whether or not one would combine any of the references for the reasons of applicant is not relevant. In response to applicant's argument that wollastonite is not used as a rheological filler by Burnell-Jones, and thus one would not use Burnell-Jones to achieve applicant's invention, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). What is relevant is whether or not one of ordinary skill in the art would combine the teachings of Nishimura and Burnell-Jones for the reasons disclosed within the bounds of those references.

With regard to the combination of Nishimura and Burnell-Jones, Nishimura teaches a curable (thermosetting) polymer composition used as a sealing material, coating, adhesive, caulking material, coating material, and the like (see col 8 line 26-29) having fillers, such as **asbestos**, calcium carbonate, china clay or kaolin (aluminum silicate) magnesium carbonate, several types of fibers, and the like. (see col 8 line 1-10) This provides a variety of silicate type fillers and a variety of fillers with needle like morphologies. Burnell-Jones teaches reinforcing fillers which offer benefits such as increased strength and stiffness, prevention of fiber bloom, reduced cost, reduced shrinkage, improved heat resistance and other thermal properties, improved appearance, and other benefits. Burnell-Jones teaches reinforcing fillers such as short and long fiber reinforcements, and calcium silicate. (See par [0107]) Burnell-Jones teaches micro and short fibers that will provide good effects where continuous fibers or



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fillers will not, including molding and extrusion applications. Whiskers are the ultimate-strength short-fiber reinforcement; with **the phasing out of asbestos, wollastonite (calcium metasilicate) is a mineral fiber of primary importance**. It has the advantage of being pure-white, and having a wholly acicular (needlelike) form. (See par [0131]) Based on the teachings of Burnell-Jones, there are a variety of reasons to incorporate wollastonite in place of asbestos, which is specifically taught by Nishimura.

**With respect to argument (B)**, applicant's arguments have been considered but are **not persuasive**. First, attention is directed to the discussion of Nishimura and Burnell-Jones, above. Nishimura teaches acicular fillers, and Burnell-Jones teaches specifically a whisker such as wollastonite. Burnell-Jones teaches that the filler will **improve physical properties**, and the strength-to-weight ratio of reinforced plastics is attributed largely to the nature of the reinforcements (see par [0130]) and **that structure and size are important**, and whiskers, such as wollastonite, are small but have a high degree of crystalline perfection; this size and purity gives the whiskers high strength. (See par [0131]) Brown teaches a composition reinforced with wollastonite fibers dispersed throughout the matrix (see abstract) which has an aspect ratio of 10 or greater. This **improves both the flexural modulus and the tensile strength**. (See col 2 line 33) The exemplified wollastonite is G-RRIM Wollastokup, having an aspect ratio of 15:1. (See col 9 line 33-37) It would be obvious to one of ordinary skill in the art to employ this particular wollastonite, taught by Brown, which has an excellent ability to improve the flexural modulus and tensile strength, as also taught by Burnell-Jones, in the composition of Nishimura in view of Burnell-Jones. Brown provides a clear motive

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for selection of a particular wollastonite, and Burnell-Jones provides a motive for replacement of asbestos, which is Nishimura's filler, with wollastonite.

The acicular nature of the wollastonite would have an effect on the viscosity of the composition, conferring thixotrophy; as the needles align due to shear (either extrusion or mixing), the viscosity is reduced, allowing improved extrudability. The thixotropic nature of the filler would also contribute to the initial fixability because the resin composition would have an increased viscosity when it was not under a shearing force, and therefore would hold its shape in an improved way. Based on the significant similarities in the polymeric components, the paraffinic groups, and the acicular filler, properties which are consistent with applicant's properties are expected. Case law holds that a material and its properties are inseparable. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)

**With respect to argument (C)**, applicant's arguments have been considered but are **not persuasive**. Attention is directed to the discussion of Nishimura and Burnell-Jones, above. As Nishimura and Burnell-Jones provide the motivation for the use of wollastonite in the composition of Nishimura, applicant's arguments with respect to Okamoto not remedying the deficiencies of Nishimura in view of Burnell-Jones are moot.

### **Conclusion**

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Milton I. Cano/  
Supervisory Patent Examiner, Art Unit 1796

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Examiner  
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/DDL/